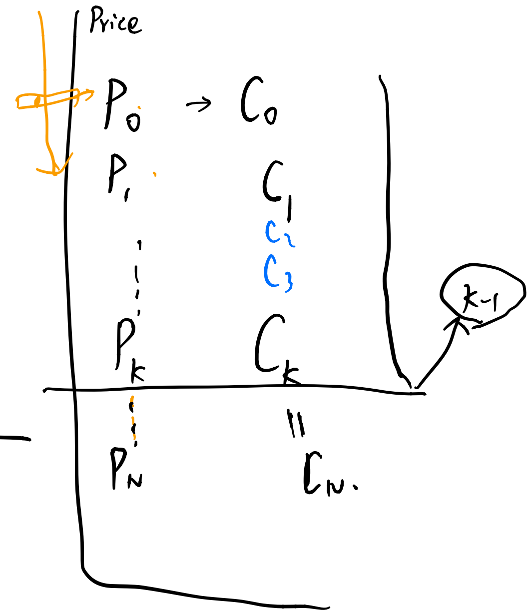


$P_0 > P_1 > \cdots > P_k$.

∘ $\text{Cost}_k = \sum_{i=1}^{k} P_i * C_i$

$\text{money}_k = \sum_{i=1}^{k} C_i * P_{k-1}$.

$\text{money}_k > \text{Cost}_k$. ←

$\sum_{i=1}^{k} C_i * P_{k-1} > \sum_{i=1}^{k} C_i * P_i$.

$P_0 \ldots \to P_{k-1} > P_k$.

$P_0 - P_{k-1} = a_0 > 0$

$P_1 - P_{k-1} = a_1$

P_2

$\vdots$

$P_{k-1} - P_{k-1} = a_{k-1} = 0$

$\uparrow r_k \bullet$ $\quad = a_k < 0.$

$$\sum_{i=1}^{k} C_i * P_{k-1} > \sum_{i=1}^{k} C_i * (a_i + P_{k-1})$$

$$> \underline{\sum_{i=1}^{k} C_i \times a_i} + \cancel{\sum_{i=1}^{k} C_i \times P_{k-1}}$$

$\forall k,$ $\quad \sum_{i=1}^{k} C_i \times a_i < 0.$

$k \le N.$

$\sum_{i=1}^{N} C_i \le 1.$ $\quad 0 \le C_i \le 1.$

$k=1.$ $\quad C_1 \times a_1 < 0.$

$$\text{cost}_k = \sum_{i=1}^{k} P_i * C_i$$

$$\text{money}_k = \sum_{i=1}^{k} C_i * P_{k-1}.$$

$$\text{money}_k > \text{Cost}_k. \leftarrow$$

$P_0 > P_1 > \cdots P_k > P_N.$

$k=1$

$$C_1 \times P_0 > \overset{\text{cost}}{C_1 \times P_1}$$

$k=2$:

$$C_1 \times P_1 + C_2 \times P_1 > C_1 \times P_1 + C_2 \times P_2$$

$$P_1 > P_2$$

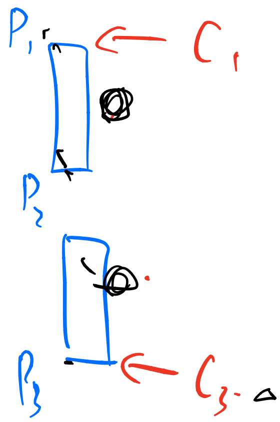
$k=3.$

$$C_1 \times P_2 + \cancel{C_2 \times P_2} + C_3 \times P_2 > C_1 P_1 + \cancel{C_2 P_2} + C_3 P_3$$

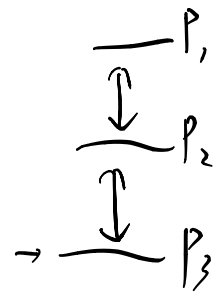
$$C_1 \underbrace{(P_2 - P_1)}_{<0} > C_3 \underbrace{(P_3 - P_2)}_{<0}.$$

$$C_1 (P_1 - P_2) < C_3 (P_2 - P_3)$$

$$C_3 > C_1 \times \frac{P_1 - P_2}{P_2 - P_3}$$



$$C_3 > C_1 \times \frac{w_1}{w_2}$$



P_1

P_2) $\to w_1$

P_3) w_2

P_4) w_3

P_5) w_4

$$w_i = P_i - P_{i+1}$$

$k=4$

$$C_1 \times P_3 + C_2 \times P_3 + \underline{C_4 \times P_3} > C_1 P_1 + C_2 P_2 + \underline{C_4 P_4}$$

$$W_1 = P_1 - P_2$$

$$W_2 = P_2 - P_3$$

$$W_3 = P_3 - P_4$$

$$C_4 (P_3 - P_4) + \underline{C_2 (P_3 - P_2) + C_1} (P_3 - P_1) > 0$$

$$C_4 (P_3 - P_4) > C_1 \underbrace{(P_1 - P_3)}_{= W_1 + W_2} + C_2 \underbrace{(P_2 - P_3)}_{= W_2}$$

$$\underline{C_4} W_3 > C_1 (W_1 + W_2) + C_2 W_2$$

$$C_4 > \frac{C_1 W_1 + (C_1 + C_2) W_2}{W_3}$$

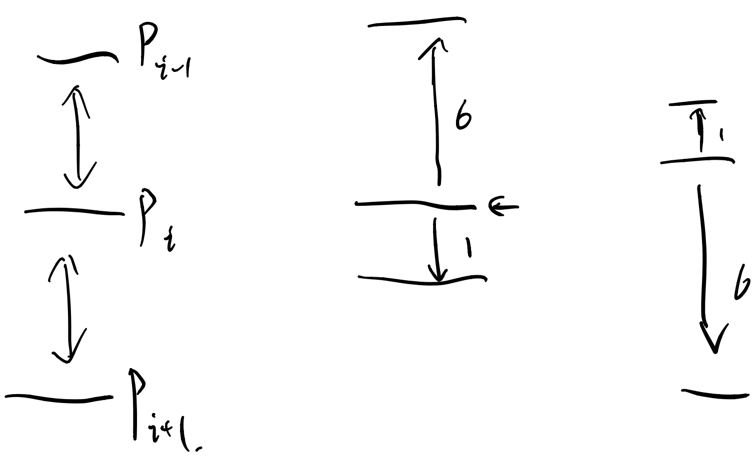
$C_1 W_1 + (C_1 + C_2) W_2$

$$C_3 > C_1 \times \frac{W_1}{W_2}$$

$$C_5 > \frac{+(C_1+C_2+C_3)W_3}{W_4}$$

$$C_k > \frac{\sum_{i=1}^{k-2}\left(W_i \times \sum_{j=1}^{i} C_j\right)}{W_{k-1}}$$

←



C_1

C_2 ^

$\vdots$

$P.$ $\boxed{C}$ ^.

P_{k-2} $\boxed{C_{k-2}}$

P_{k-1} $\cancel{C_{k-1}}$ P_{k-1} P_{k-1}

P_k C_k